

**DOCKET NO. D-2010-028 CP-1**

**DELAWARE RIVER BASIN COMMISSION**

**Tamaqua Area Water Authority and Borough of Tamaqua  
Still Creek and Owl Creek Reservoirs  
Surface Water Withdrawal and Reservoir Rehabilitation Project  
Rush Township and Tamaqua Borough, Schuylkill County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an Application submitted jointly by the Tamaqua Area Water Authority (TAWA) and Tamaqua Borough to the Delaware River Basin Commission (DRBC or Commission) on July 6, 2010 and amended on October 23, 2012 for approval of an existing surface water withdrawal and reservoir water release project and of a surface water reservoir rehabilitation project (Application). The project surface water withdrawals for public water supply were approved by the Pennsylvania Department of Environmental Protection (PADEP) on January 5, 1965 (Water Allocation Permit No. WA-626). The Owl Creek Reservoir Rehabilitation was approved by the PADEP on July 18, 2011 (Dam Safety Permit No. D54-096A)

The Application was reviewed for inclusion in the Comprehensive Plan and for approval under Section 3.8 of the *Delaware River Basin Compact*. The Schuylkill County Planning Commission has been notified of pending action on this docket. A public hearing on this project was held by the DRBC on December 5, 2012.

**A. DESCRIPTION**

**1. Purpose.** The purpose of this docket is for approval of an existing surface water withdrawal project to withdrawal up to 155 million gallons per month (mgm) of water from an existing surface water intake located on TAWA's Still Creek Reservoir for public water supply. The docket also approves the rehabilitation of the Owl Creek Reservoirs owned by Tamaqua Borough and approves the use of up to 8 million gallons per day (mgd) of reservoir releases from the Owl Creek Reservoirs for consumptive use make-up water for Limerick Generating Station (LGS) located in Limerick Township, Montgomery County, Pennsylvania. The docket also approves the increase in combined releases from the Still Creek and Owl Creek Reservoirs from 36 mgd up to 43.3 million gallons per day (mgd), for use by the Exelon Generation Company, LLC, for its consumptive use and non-consumptive cooling water needs at LGS. The approval for the increase in releases for LGS is contingent upon Commission approval of LGS Docket No. D-1969-210 CP-13.

2. **Location.** The **Still Creek Reservoir** is located in Rush Township, Schuylkill County, Pennsylvania, approximately 2.3 miles north of Hometown, Pennsylvania. The Still Creek Dam is located at River Mile 92.47 - 102.1 - 30.15 - 1.0 (Delaware River – Schuylkill River – Little Schuylkill River – Still Creek). Still Creek, downstream of the Still Creek Reservoir is classified by the PADEP as supporting Cold Water and Migratory Fishes (CWF, MF).

The **Owl Creek Reservoirs** are located in Borough of Tamaqua, Schuylkill County, Pennsylvania. The Lower and Upper Owl Creek dams are located at River Miles 92.47 – 102.1 – 22.1 – 1.7 and 92.47 – 102.1 – 22.1 – 2.3 (Delaware River – Schuylkill River – Little Schuylkill River – Owl Creek), respectively. Due to their in-line, close proximity to one another, the Upper and Lower Owl Creek Reservoirs are assumed to function as a single reservoir of combined capacity. The Owl Creek Basin is classified by the PADEP as High Quality (HQ), supporting Cold Water and Migratory Fishes (CWF, MF).

Specific location information has been withheld for security reasons.

3. **Area Served.** The TAWA serves public drinking water from the Still Creek Reservoir via their water treatment plant to customers in Tamaqua Borough and Rush, Walker, West Penn, and Schuylkill Townships, all located in Schuylkill County, Pennsylvania. The service area is outlined on a map entitled “Tamaqua Area Water Authority, Primary Facilities” submitted with the Application. TAWA and Tamaqua Borough will release augmentation water from the Still Creek and Owl Creek Reservoirs to supply the consumptive and non-consumptive cooling water needs at the LGS. For the purpose of defining Area Served, the Application is incorporated herein by reference consistent with conditions contained in the DECISION section of this docket.

4. **Physical features.**

a. **Design criteria.** The TAWA public water system currently serves water to approximately 8,000 customers on 3,561 domestic service connections and records an existing average and maximum water demand of 1.70 mgd and 2.80 mgd, respectively. TAWA projects the 10-year average and maximum water demand to increase to 1.72 mgd and 2.84 mgd, respectively. The allocation of 155 mgm granted herein satisfies the docket holder’s expected 10-year water demand and meets the maximum water treatment capacity of the Still Creek water filtration plant.

b. **Facilities.** The existing project intake and reservoir have the following characteristics:

**STILL CREEK RESERVOIR**

The Still Creek Reservoir is owned by TAWA and operated by Tamaqua Borough under an operation agreement with TAWA. Still Creek Dam is an earth fill dam with a central clay core. Construction of the dam was completed in 1935, with several rehabilitation projects completed since that time. The embankment has a height of 86 feet and a length of 1,160 feet. At nominal pool elevation of 1,182 feet (the spillway elevation), the capacity of the Still Creek Reservoir is 2,700 million gallons (mg). The drainage area upstream of the dam is 6.9 square miles.

Raw water from the Still Creek Reservoir is delivered by gravity (when the water level is at or above 1,176 feet) to the Still Creek Water Treatment Plant (WTP) via 200 feet of 36-inch and 5,200 feet of 30-inch raw water transmission main with a hydraulic capacity of 12 mgd. When the water level in the reservoir is below 1,176 feet, an auxiliary raw water pumping station is utilized to ensure adequate hydraulic head to the WTP. Flow is measured at the WTP by a 24-inch BIF venturi meter, which is calibrated annually. The flow rate is transmitted by an indicating flow transmitter (Rosemount model number S-12-BI-M3) to the main control panel for control, indication, totalization and to the SCADA system for display, alarm, and report generation. The maximum, minimum, and average raw water flow rates are recorded on the WTP's Daily Water Inventory Report. Monthly operational reports are submitted to the Pennsylvania Department of Environmental Protection (PADEP).

Raw water from the reservoir is treated at the WTP, which has a permitted capacity of 5 mgd. From the WTP, treated water is delivered to system customers via a 30-inch transmission main, from which smaller mains deliver water to the distribution systems. The distribution systems include three 1 million gallon (mg) storage tanks, one 1.5 mg tank, and two 0.5 mg tanks. Pumping is used to deliver water to the Rush Township distribution system. A pressure-regulating valve is used to establish a separate distribution system serving customers in the lower-elevation Hometown area of Rush Township.

The distribution systems in Tamaqua Borough are fed by gravity from the WTP. Pressure regulating valves are used to establish a separate distribution system serving customers in the lower-elevation area of the Borough and Walker and West Penn Townships. Wastewater from these customers is treated at Tamaqua's Wastewater Treatment Plant

Prior to entering the distribution system, the water is treated at the TAWA WTP by coagulation, clarification, mixed media gravity filtration, and chlorine disinfection. Filter backwash discharge is conveyed to the Little Schuylkill River. The PADEP issued its most recent NPDES Permit No. PA0063053 on May 28, 2008 for this treatment facility. The facility discharge does not require a DRBC Docket as filter backwash design flow is below Commission thresholds for review.

All water service connections are metered. The Still Creek intake is metered. The water system is not presently interconnected with any other water system.

## **OWL CREEK RESERVOIRS**

The Owl Creek Reservoirs are owned and operated by Tamaqua Borough. The primary purpose of the reservoirs is for recreation. The Upper and Lower Owl Creek Dams are located across Owl Creek and impound 70-acre and 26-acre reservoirs, respectively. Tamaqua Borough is rehabilitating the reservoirs to better handle the Probable Maximum Flood (PMF), increase freeboard, and to facilitate releases for consumptive use make-up water for downstream users as was previously approved by the Commission.

### **Upper Owl Creek Reservoir**

Initial construction of the Upper Owl Creek Reservoir was completed in 1921. The dam is a 1300-ft long earthfill embankment with a maximum height of about 38 ft. A nine inch thick

concrete core wall is located along the centerline of the dam. At the spillway elevation of 1,094 feet, the capacity of the Upper Owl Creek Reservoir is 300 mg. The drainage area upstream of the Upper Owl Creek Dam is 1.5 square miles.

The spillway is located on the right abutment, and consists of a 50-ft long trapezoidal concrete weir and chute. A pedestrian bridge provides access across the spillway. The chute converges and curves sharply to the left, then narrows to a 3-ft wide masonry-lined ditch that parallels the toe of the dam. Drawdown is provided through a concrete intake tower located at the upstream toe of the dam. A steel truss pedestrian bridge provides access to the intake tower. Water is admitted to the tower through five, 18-inch square sluice gates located at various elevations. Two 20-inch diameter cast-iron pipes encased in concrete extend through the embankment to a valve house at the downstream toe of the dam. Each pipe is controlled by a double valve, which can be discharged directly into the channel or through an aeration system.

Improvements to the Upper Owl Creek Reservoir consist of the following:

- Removal of the existing concrete spillway, chute and pedestrian bridge.
- Construction of a staged cast-in-place concrete labyrinth spillway designed to safely pass the PMF while maintaining existing flood discharges for storms up to the modeled 100-year event.
- The replacement spillway will be located to the left of the existing spillway and situated on natural soils. The existing embankment core wall will tie into the labyrinth slab.
- The replacement spillway chute training walls have been designed to contain flows up to the PMF. The replacement spillway chute and outlet apron will be capable of resisting uplift pressures, and include underdrains and cutoffs.
- Construction of a riprap-lined outlet channel.
- Installation of a pedestrian bridge over the replacement spillway.
- Stripping the downstream embankment and installing a chimney, blanket and toe drain system.
- Raising the crest of the dam 4 ft with earthfill and flattening the downstream slope to 3H:1V.
- Installation of a seepage monitoring system that includes weir boxes to measure flow from the new drain system, and installation of piezometers to monitor phreatic levels in the embankment and foundation.
- Removal of the existing concrete intake tower, gates, stems, operators and pedestrian bridge.
- Construction of a cast-in-place concrete inlet and gate stem support structure on the upstream embankment, and installation of new gates, stems, and operators.
- Removal of the existing valve house at the toe of the existing dam and extending the outlet conduits beyond the proposed toe of the raised embankment.
- Regrading the gravel access road along the toe of the dam, including replacement of the concrete box culvert across the spillway outlet channel.

### Lower Owl Creek Reservoir

Initial construction of the Lower Owl Creek Reservoir was completed in 1928. Lower Owl Creek Dam is located downstream of Upper Owl Creek Dam. The dam consists of an earthfill embankment approximately 33-ft high and 1,000-ft long. At the spillway elevation of 1,056.6 feet, the capacity of the Lower Owl Creek Reservoir is 55 mg. The drainage area upstream of the Lower Owl Creek Dam is 1.5 square miles.

The upstream slope is lined with hand-placed riprap and the downstream slope is grass covered. An 18-ft wide concrete overflow spillway is located near the right abutment of the dam. A control building is located immediately to the right of the spillway. A 16-inch diameter cast iron pipe (CIP) water supply conduit conveys water through a series of screen chambers located within the control building. From the screen chambers, cleanout pipes pass into the floor and join before passing through the left wall of the control house. Supply pipes from the screen chambers join and pass through the downstream wall of the control house, where the pipe originally crossed over the spillway exit channel and continued downstream to connect with the distribution system for Tamaqua. The portion of the pipe over the channel has been removed so that the pipe now outlets into the stream connecting the two reservoirs. Near the left side of the control building, a 10-inch diameter CIP blow off passes at an angle through the control building and discharges into the right side of the stilling basin. Gate valves within the control building control flow through these pipes. An additional 12-inch diameter CIP blow off pipe is located to the left of the spillway, passes through the embankment, and discharges through the left spillway training wall immediately downstream of the stilling basin.

Improvements to the Lower Owl Creek Reservoir consist of the following:

- Partial demolition of the existing spillway control section and chute.
- Construction of a staged box-inlet drop spillway over the existing siphon spillway. The spillway is designed to safely pass the PMF while maintaining existing flood discharges for storms up to the modeled 100-yr flood.
- Construction of a stepped spillway chute and stilling basin.
- Construction of a concrete vehicular bridge over the box-inlet drop spillway.
- Stripping the downstream embankment and installing a chimney, blanket and toe drain system.
- Armoring a 175-ft long section of the embankment with roller compacted concrete (RCC).
- Raising the remainder of the embankment by about 4 ft and flattening the downstream slope to 3H:1V.
- Installation of a seepage monitoring system that includes weir boxes to measure flow from the new drain system, and installation of piezometers to monitor phreatic levels in the embankment and foundation.
- Demolition of the existing control house and piping within the control house. Abandoning the 10-inch diameter CIP blow-off. Slip lining the 12-inch and 24-inch diameter outlet pipes, and extending each pipe beyond the proposed toe of the dam.

- Construction of cast-in-place concrete inlets and gate stem support structures on the upstream slope, and installation of new gates, stems, and operators for the 12 and 24-inch diameter pipes.

c. **Other.** Wastewater from the TAWA public water supply system is conveyed to the Tamaqua Borough Authority (TBA) Wastewater Treatment Plant most recently approved by DRBC Docket No. D-1990-060 CP-1 on January 16, 1991. The PADEP issued its most recent NPDES Permit No. PA0027006 on December 7, 2011 for this treatment facility. The treatment facility has adequate capacity to receive wastewater from the proposed project. Treated wastewater is discharged to the Little Schuylkill River.

d. **Cost.** The overall cost of this project is estimated to be \$5,966,500.

e. **Relationship to the Comprehensive Plan.** By Resolution 62-14, approved July 25, 1962, the DRBC incorporated the Still Creek and Owl Creek Reservoirs into its Comprehensive Plan. The use of both the Still Creek and Owl Creek Reservoirs for augmentation water releases for Exelon and its predecessors was previously approved in DRBC Dockets D-1969-210 CP (Revisions 6 through 11). DRBC Docket D-1969-210 CP (Revision 12) stated that while the agreement between Exelon and Tamaqua Borough Authority allowed for the use of water in the Owl Creek Reservoirs by Exelon, it was reported that the Owl Creek Reservoirs were unavailable for use due to operational complications. The Still Creek Reservoir releases remained as a source of water for Exelon in DRBC Docket D-1969-210 CP (Revision 12) and associated extensions via DRBC Resolutions thereafter. DRBC Docket No. D-1969-210 CP-13; scheduled for action by the Commission at the December 5, 2012, proposes the approval of the use by Exelon of the Still Creek and Owl Creek Reservoirs for its water needs under certain conditions specified in the docket.

## **B. FINDINGS**

### **Requested Water Allocation for Public Water Supply**

In its Application, TAWA requested an allocation of 240 mg/30 days (8 mgd) of surface water from the Still Creek Reservoir for public water supply. However, the TBA WTP is only designed to treat a maximum of 5.0 million gallons of water per day (155 mgm). The allocation of 155 mgm granted herein satisfies the docket holder's expected 10-year water demand and meets the maximum water treatment capacity of the Still Creek water filtration plant.

### **State Water Withdrawal Allocation**

The Commonwealth of Pennsylvania Department of Forests and Waters, Water and Power Resources Board (currently PADEP) issued Water Allocation No. WA-626 to the TBA on January 5, 1965. The permit allocated 8 million gallons per day from the Still Creek Reservoir and 2 mgd from the Owl Creek Reservoirs for public water supply purposes. The permit, which involves public water supply diversions not related to releases on behalf of LGS, expires on January 5, 2015.

**Still Creek Certificate of Entitlement**

The TBA constructed and maintained the Still Creek Reservoir prior to the establishment of the DRBC. TAWA is a municipal authority that is successor in interest to the TBA, as owner of the Still Creek Reservoir. Article 5.1.3.D, of the DRBC Basin Regulations – Water Supply Charges provides:

“Notwithstanding the provisions of A., B. and C., there shall be no charge for water made available from storage where: (1) The cost of the storage facility has or will be otherwise paid for by the user; (2) such storage controls a drainage area; and (3) the use does not exceed the yield of such storage without augmentation from other surface water of the basin.”

TAWA meets the conditions of Article 5.1.3.D and therefore is not required to pay water supply charges to the Commission for withdrawals from the Still Creek Reservoir as: 1) the TBA and the successor agency, TAWA, has paid for and maintains the Still Creek Reservoir storage facility; 2) the Still Creek Reservoir storage facility controls a drainage area; and 3) the TAWA’s use does not exceed the yield of the Still Creek Reservoir storage facility without augmentation from other surface water of the basin.

DRBC issued Entitlement No. 311 to the TBA on August 6, 1976. The Entitlement confirmed that TBA could use, withdraw or divert up to 38.044 million gallons per month for consumptive use and 205.156 million gallons per month for non-consumptive use without being subject to Commission surface water charges. Certificates of Entitlement are generally not transferable (see Article 5.2.1). Since the certificate is not transferrable and is not required to preserve the docket holder’s right to not pay water charges, the Certificate will no longer be in effect upon approval of this docket.

**Drought Contingency Plan and Safe Yield**

TAWA has implemented a Drought Contingency Plan, which was reviewed and approved by PADEP in 2002. This plan includes rationing steps that will be taken in the event that reservoir water levels reach certain elevations. The reservoir historically shows little impact (drawdown) during drought conditions. The Drought Contingency Plan does not require voluntary restrictions on non-essential water use until the reservoir water level drops to 1,170 feet.

A detailed investigation was performed in April 2000 by the Authority's Consulting Engineer (Gannett Fleming, Inc.) to determine the safe yield available from the Still Creek Reservoir. Based on the findings of that investigation, the safe yield of the Still Creek Reservoir is estimated to be 6.48 mgd. This determination was made using a computer model and hydrologic database developed to simulate operation of the reservoir system for a 75-year period (1919 to 1994), which included several droughts. The Still Creek Reservoir is large in comparison to its contributing watershed and is able to withstand prolonged droughts. The effect of this large volume is evident in the model results. Operating records verified the model-simulated results that indicate the reservoir level rarely falls below the spillway elevation under current system demand conditions.

A similar analysis was performed by Gannett Fleming, Inc. for the Owl Creek Reservoirs as a whole in June 2000. This study was commissioned by the Tamaqua Area Water Authority

to determine and document the safe yield of the Owl Creek surface water system. The two reservoirs comprising this system, Upper Owl Creek and Lower Owl Creek Reservoirs, are no longer used for public water supply. Previous safe yield analyses estimated the safe yield for drought conditions representative of a 50-year return period for these reservoirs to be approximately 1.4 mgd.

Verification of the safe yield from these reservoirs, using currently accepted analysis procedures, was required to ensure that sufficient water was available to meet the water demands of TAWA as the reservoir was being used for public water supply at the time, as well as those of potential bulk raw water users.

The primary objectives of the study was to: (1) develop an accurate hydrologic database of daily inflows into each reservoir for the period of record from 1919 to the present; (2) develop a computer program to simulate the daily operation of the system; and (3) analyze the raw water supply system using the computer model and hydrologic database to estimate the safe yield of the existing system. The safe yield investigations performed for this study were based on a state-of-the-art method of analysis and 75 years (1919 to 1994) of streamflow and climatic data corrected to specifically represent the site. The method of analysis involved programming a custom computer model to simulate the daily operation of the Owl Creek surface water system by TAWA. A regional analysis of USGS stream gages in the area was completed to select the streamflow data most appropriate for the model simulation. For the simulation, the system was operated to maximize the available storage by minimizing spillway flows. The drought of record was determined to have occurred from 1930 to 1933. Without minimum (conservation) release requirements, the Owl Creek system has an estimated safe yield of 1.5 MGD. With a conservation release flow of 0.3 cubic feet per second (cfs) or 0.194 mgd, the estimated 7Q10 (seven day low flow over a recurrence interval of 10 years) for Owl Creek below the lower dam, the estimated safe yield of the reservoir is approximately 1.31 mgd.

### **Reservoir Releases for Exelon Limerick Generating Station**

TAWA's Still Creek Reservoir currently supplies a portion of the consumptive and non-consumptive cooling water needs at LGS. During periods when the natural flow criteria for the Schuylkill River and Perkiomen Creek are not met, LGS is approved to use water released from Still Creek Reservoir specifically to augment flow in the Schuylkill River for use by LGS. Exelon can withdraw an equivalent amount (minus evaporative losses) to be used as makeup water to meet LGS's consumptive cooling water needs. LGS (Exelon) has a contract with TAWA and Tamaqua Borough for up to 36 mgd of compensatory water releases from Still Creek Reservoir into Still Creek. The parties intend to increase this amount to 43.3 mgd in a future contract as Exelon has determined that it requires more water in certain circumstances through various demonstrations.

Releases from Still Creek reservoir were approved for use by LGS to augment the Schuylkill River to meet up to 36 mgd of LGS's consumptive cooling water needs when the Schuylkill River is unavailable due to withdrawal restrictions in Docket No. D-1969-210 CP-12.

In planning for a modified contract, the docket holders and Exelon have requested in their respective Applications that the limit for the releases to augment the Schuylkill River flow for



the purpose of the LGS consumptive use operations be increased from 36.0 mgd to 43.3 mgd (i.e., 42 mgd plus a three percent allowance for in-transit evaporative losses). The docket holders and Exelon have also requested the approval to use releases from the Owl Creek Reservoirs in combination with releases from Still Creek Reservoir for augmentation purposes. The use of both the Still Creek and Owl Creek Reservoirs for augmentation water releases for LGS was previously approved in DRBC Dockets D-1969-210 CP (Revisions 6 through 11).

The Still Creek Dam outlet structure can currently safely release up to approximately 36 mgd, which is the maximum rate identified in the current agreements executed by the Authority, Tamaqua Borough, and Exelon. The Owl Creek Dam rehabilitation will facilitate the release of up to 8 mgd from Lower Owl Creek Reservoir while maintaining an acceptable pipe flow velocity and drawdown rate. The 44 mgd maximum combined release potential of the two (2) sources of supply is sufficient to meet the intended contractual increase to 43.3 requested by Exelon. This docket provides the approval to release up to a total of 43.3 mgd of water from the Still Creek and Owl Creek Reservoirs for consumptive use at LGS, contingent upon TAWA, Tamaqua Borough and Exelon entering into a contract under conditions described in Docket No. D-1969-210 CP-13. This may include releases of up to 36 mgd from Still Creek Reservoir and up to 8 mgd from Owl Creek Reservoir not to exceed a total of 43.3 mgd as described in Condition C.II.d. in the DECISION Section.

### **Conservation Releases**

The docket holder's reservoirs have not previously been subject to a conservation release requirement. The approximate drainage area of the Still Creek Watershed above the Still Creek Dam is 6.9 square miles. The estimated 7Q-10 flow just downstream of the dam is 0.64 cubic feet per second (cfs) or 0.414 million gallons per day (mgd). The docket holder is required to maintain a minimum flow in Still Creek downstream of the dam of 0.64 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass.

The approximate drainage area of the Owl Creek Watershed above the Lower Owl Creek Dam is 2.2 square miles. The estimated 7Q-10 flow just downstream of the dam is 0.30 cubic feet per second (cfs) or 0.194 mgd. The docket holder is required to maintain a minimum flow in Owl Creek downstream of the dam of 0.30 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass.

Within three months of the date of approval of this Docket (March 5, 2013), the docket holder shall submit an Operation Plan, subject to review and approval by the Executive Director of the DRBC, which shall include a means to maintain, monitor, and report the conservation release to Still Creek below the Still Creek Dam and Owl Creek below the Lower Owl Creek Dam, in accordance with Condition C.II.e. in the DECISION Section. The conservation release requirement will become effective on a date specified by the Executive Director upon review and approval of the Operation Plan. The conservation release required by this condition shall not be counted as part of the augmentation release for LGS. The augmentation release shall be in addition to the required conservation release from the reservoir. The conservation release requirement will become effective upon the date prescribed in the Executive Director's approval of the plan.

**Water Audits for Public Water Supply Systems Serving Greater than 100,000 gpd**

Section 2.1.8 of the Water Code states that it is the policy of the Commission to establish a standardized water audit methodology for owners of water supply systems serving the public to ensure accountability in the management of water resources. Voluntary Water Audits were encouraged for public water supply systems through December 31, 2011 (Section 2.1.8.B.). Effective January 1, 2012, the owners of each public water supply system are required to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance (Section 2.1.8.C). The results of the first annual water audit shall be submitted to the Commission by March 31, 2013. Subsequent annual water audits shall be submitted annually to the Commission by March 31 every year thereafter.

**Other**

The project is designed to conform to the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

The DRBC estimates that the project withdrawals, used for the purpose of public water supply, result in a consumptive use of 10 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

**C. DECISION**

I. Effective on the approval date for Docket No. D-2010-028 CP-1 below:

a. The project and the appurtenant facilities described in the Section A “Physical features” shall be added to the Comprehensive Plan.

b. Entitlement No. 311 is terminated.

II. The project and appurtenant facilities as described in the Section A “Physical features” are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its water allocation permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission’s. The docket holder shall register with and report to the PADEP all surface and ground water sources described in this docket in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

b. The withdrawal intake, reservoir and operational records shall be available at all times for inspection by the DRBC.

c. The surface water intake shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

d. During any month, the withdrawal from Still Creek Reservoir for the purpose of public water supply shall not exceed 155 million gallons. Combined releases from the Still Creek and Owl Creek Reservoirs to augment Schuylkill River flow for the purpose of the LGS consumptive use operations shall not exceed 43.3 mgd. This may include releases of up to 36 mgd from Still Creek Reservoir and up to 8 mgd from Owl Creek Reservoir. The conservation release required by Condition C.II.e. shall not be counted as part of the augmentation release for LGS.

e. The docket holder is required to maintain a minimum flow in Still Creek downstream of the dam of 0.64 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass. The docket holder is required to maintain a minimum flow in Owl Creek downstream of the dam of 0.30 cfs at all times unless inflow to the reservoir is less than this at which time the entire natural in-flow to the reservoir shall be allowed to pass. Within 3 months of the approval of this docket (March 5, 2013), The docket holder must submit to the DRBC Executive Director for review and approval an Operation Plan to provide for the minimum conservation release into Still Creek below the Still Creek Dam and Owl Creek below the Lower Owl Creek Dam. The Operation Plan must include a complete description of the means and methodology with which to maintain, monitor, and to report the conservation release to Still Creek and Owl Creek below the Still Creek and Lower Owl Creek Dams and a means to calculate, monitor, and report inflow to the Still Creek and Owl Creek Reservoirs. The conservation release required by this condition shall not be counted as part of the augmentation release for LGS. The augmentation release shall be in addition to the required conservation release from the reservoir. The conservation release requirement will become effective upon the date prescribed in the Executive Director's approval of the plan.

f. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported to the PADEP annually and shall be available at any time to the Commission if requested by the Executive Director.

g. Each new water service connection shall include a water meter in accordance with the DRBC's Resolution No. 87-7 (Revised).

h. In accordance with DRBC Resolutions No. 87-6 (Revised) and No. 2009-1, the docket holder shall continue to implement to the satisfaction of the state agency, the systematic program to monitor and control leakage within the water supply system. The program shall at a minimum include: periodic surveys to monitor leakage, enumerate non-revenue water and determine the current status of system infrastructure; recommendations to

monitor and control leakage; and a schedule for the implementation of such recommendations. The docket holder shall proceed expeditiously to correct leakages and unnecessary usage identified by the program.

i. In accordance with DRBC Resolution No. 2009-1 and Section 2.1.8 of the Water Code, the docket holder shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding guidance. The results of the first annual water audit shall be submitted to the Commission by March 31, 2013. Subsequent annual water audits shall be submitted annually to the Commission by March 31 every year thereafter.

j. The docket holder shall implement to the satisfaction of the PADEP, the continuous program to encourage water conservation in all types of use within the facilities served by this docket approval. The docket holder will report to the PADEP on the actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

k. No water service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

l. The docket holder shall continue to implement its Water Conservation Plan as approved by PADEP, and shall report to the PADEP on actions taken pursuant to this program and the impact of those actions as requested by the PADEP.

m. The docket holder shall continue to implement to the satisfaction of the PADEP, a drought or other water supply emergency plan.

n. Sound practices of excavation, backfill and reseeding shall be followed to minimize erosion and deposition of sediment in streams from any new facilities or repair related construction.

o. No new water service connections shall be made to premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

p. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

q. The docket holder is permitted to provide the water approved in this docket to the areas included in Section A.3. Area Served of this docket. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact*.

r. This approval of the construction related to the Owl Creek Reservoirs as described in paragraph A.4.a. of this docket shall expire three years from date below unless prior thereto the docket holder has commenced operation of the subject project or has provided the

Executive Director with written notification that it has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

s. Within 30 days of completion of construction of the approved project, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement (“Statement”) signed by the docket holder’s professional engineer for the project. The Statement must (a) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (b) report the project’s final construction cost as such cost is defined by the project review fee schedule in effect at the time application was made; and (c) indicate the date on which the project was (or is to be) placed in operation. In the event that the final project cost exceeds the estimated cost used by the applicant to calculate the DRBC project review fee, the statement must also include (d) the amount of any outstanding balance owed for DRBC review. Such outstanding balance will equal the difference between the fee paid to the Commission and the fee calculated on the basis of the project’s final cost, using the formula and definition of “project cost” set forth in the DRBC’s project review fee schedule in effect at the time application was made.

t. Unless an extension is requested and approved by the Commission in advance, in accordance with paragraph 11 of the Commission’s Project Review Fee schedule (Resolution No. 2009-2), the docket holder is responsible for timely submittal of a docket renewal application on the appropriate DRBC application form at least 12 months in advance of the docket expiration date set forth below. The docket holder will be subject to late charges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below (or the later date established by an extension that has been timely requested and approved), the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

u. The issuance of this docket approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

v. If the monitoring required herein, or any other data or information demonstrates that the operation of this project significantly affects or interferes with any domestic or other existing uses of ground or surface water, or if the docket holder receives a complaint by any existing ground or surface water users within the zone of influence of the withdrawal, the docket holder shall immediately notify the Executive Director of any complaints by any ground or surface users within the zone of influence of the withdrawal, and unless excused by the Executive Director, shall investigate such complaints. The docket holder should direct phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In

addition, the docket holder shall provide written notification to all potentially impacted users of wells or surface water supplies of the docket holder's responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the docket holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the docket holder. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

w. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

x. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the docket holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

y. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the *Rules of Practice and Procedure*. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

**BY THE COMMISSION**

**APPROVAL DATE: December 5, 2012**

**EXPIRATION DATE: December 5, 2022**